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FOREWORD

REGULATION IN THE FACE OF TECHNOLOGICAL ADVANCE: WHO MAKES THESE CALLS ANYWAY?

REV. JOHN H. PEARSON, C.S.C.*

It has become a commonplace to note how fast changes in science and technology are intruding into the way we ordinary human beings live our lives. It is unusual to open a newspaper or to turn on the television news without being hit with some new story about how fast the world is changing around us. How fast is electronic commerce growing? Just how close are they to cloning a human being; after all, we already have cloned sheep and cattle and who knows what other animals sharing our world with us?

It has also become a commonplace to note that these dizzying changes in science and technology can easily outstrip those systems by which we humans make critical decisions about what can and should be done by those who are responsible members of society and about how to protect those responsible members of society from those who are not so responsible.

Two of the areas of science and technology in which we see some of the fastest and perhaps most far-reaching changes are in biotechnology—for example genetic engineering and cloning—and in computer technology—especially the Internet and the dramatic challenges it poses to many different areas of law, from tort and contract to trademark and copyright. It is these two areas upon which the editors of this journal have chosen to focus their attention in this issue, as examples of and proxies for the many types of changes that are challenging the legal and moral systems of modern society. In both cases, those of biotechnology and of rapidly burgeoning computer and Internet technology, advances are so fast and furious that they raise severe doubts about how and if the legal and governmental structures of western democracy, or indeed of any form of modern government,

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can respond so that the response is not obsolete, outmoded, useless, and even counterproductive by the time it becomes established.

Should judges respond to these situations, should legislatures, or should anybody at all? One of the things sometimes said about the common law is that it has amazing flexibility in its ability to deal with changing circumstances. When people show up in a common-law court with disputes over an area of law in which there is no precedent, judges might form an answer by analogizing to law in entirely different areas. So, to quote a classical example dear to the heart of us property professors, if judges were faced with decisions about ownership of oil and natural gas resources, they might analogize from the law of wild animals to determine rights in these "fugitive" resources.¹ On the other hand, some will say that the common law is also particularly conservative and precedent-bound in its approaches to most situations and therefore not well-suited for dealing with this type of change. And when analogy comes into play, it does not really render a solution well-suited to the problem it attempts to solve. Given the rapidity with which biotechnology and computer technology are changing, how could one ever seriously argue that the common law could provide a regulatory regime responsive enough to these very modern problems?

So what about statutes? People can form equally telling criticisms: it takes too long for issues to make it to the radar screen of legislatures; legislatures are too beholden to lobbyists to make decisions based on the merits; legislatures are too responsive (or not responsive enough) to pressures from their constituencies; legislatures devise schemes that are too detailed and rigid, or the opposite, leaving too much discretion in the hands of that target of so much, often uninformed, criticism—the bureaucrat.

1. Judges came up with a rather ingenious analogy to wild-animal law, as expressed in cases like *Pierson v. Post*, 3 Cai. R. 175, 2 Am. Dec. 264 (N.Y. 1805) (involving a dispute over a fleeing fox and granting ownership to the one who actually brought the fox into possession by killing it), to decide how ownership of oil and gas rights should be distributed. See, e.g., *Hammonds v. Central Ky. Nat. Gas Co.*, 75 S.W.2d 204 (Ky. 1934), *overruled by Texas Am. Energy Corp. v. Citizens Fidelity Bank & Tr. Co.*, 736 S.W.2d 25 (Ky. 1987). "[A]nalogies to the capture of wild animals show up time and again when courts have to deal on a nonstatutory basis with some 'fugitive' resource that is being reduced to property for the first time . . ." Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73, 75 (1985). That these solutions by analogy have their weaknesses is symbolized by the Kentucky Supreme Court's action in overruling *Hammonds* and that in this particular area most states now have statutory regimes.

Perhaps the situation is such that we ought simply to sit back and wait a while. Maybe in areas as fluid as these any attempt at regulation is doomed to fail. Maybe we ought to let the "market" rule and shake out various forms of behavior, and once the outlines of behavior finally begin to settle down, then it will be possible to figure out who is being helped and who is being harmed. And once we can figure that out we can fashion some reasonable approach to governing so that each person is not simply at the mercy of whoever is stronger and more ruthless. Or, if we do that, will we have waited too long with the result that behavior destructive to human life and the human spirit will have become entrenched in our way of thinking?

I. WHAT ABOUT DOLLY, AND THOSE HUMANS TO SUCCEED HER?

The pace of change in the biological and medical sciences is dizzying. It is unusual to pick up a copy of a newspaper or magazine without running into a headline about new breakthroughs that will surely change the way we live or our conception of who we are. "How to Build a Body Part" is the headline with which *Time* magazine trumpets scientific breakthroughs in the use of human stem cells, the most immature in the embryonic body, which scientists are trying to figure how to give "just the right kick in just the right direction [so that] each could become a liver, a heart, a brain or a bone."² *Time* devoted a special issue to "The Future of Medicine,"³ with articles on genetic testing, DNA mapping, "designer babies," repairing DNA, and so forth. Further, in "Cows and Clones on a Va. Pharm,"⁴ the *Washington Post* informs us of a farm in Blacksburg, Virginia where the same company that in Scotland assisted in cloning Dolly the sheep gives us Rosie, a cow whose milk, through genetic manipulation, carries a human protein that may be useful in making drugs. That same company also helped to develop pigs with genetic modifications that make their organs "a bit more like those of human beings" so that someday those organs may be suitable for transplantation into humans, thereby solving the shortage of transplantable organs.⁵ Finally the company gives us Mr. Jefferson, a Holstein bull whose claim to fame is that he is a clone.⁶ The last is perhaps most interesting. Cloning is a topic that strikes a chord that

2. John Fischman, *How to Build a Body Part*, TIME, Mar. 1, 1999, at 54, 54.

3. TIME, Jan. 11, 1999, at 42-91 (Special Issue: The Future of Medicine).

4. Justin Gillis, *Cows and Clones on a Va. Pharm: Where Animals Make Drugs and Gene Research Goes to the Frontier*, WASH. POST, Feb. 28, 1999, at A1.

5. *Id.*

6. *See id.*

reverberates through our imaginations. It serves as a useful proxy for the many kinds of advances in medicine and the biological sciences and for various kinds of genetic engineering that the public hears so much about these days. By one measure it is just one other of various technologies by which plant, animal, and now human genetic road maps are being redrawn, but it draws so much fascinated attention by the public because it seems to be such a radical step into a future that is at once promising and terrifying. It implicates issues of our very nature as humans, of playing God, of stepping too far and too fast into the unknown. Cloning is just the kind of subject that people see as requiring careful, thoughtful, and some of us would even say, prayerful consideration. However:

While ethicists have been debating human cloning, while legislators have been considering bans and while pastors have been inveighing against tampering with God's creation, PPL scientists have been quietly plugging away in barns and pastures here, trying to sidestep the controversy. They see cloning as a quick, efficient way to produce animals with special genetic traits that can solve health problems, and as a potentially profitable business.⁷

This quotation leads into John H. Robinson's essay, "Why an Acceptable Cloning Policy Will Be Hard to Achieve,"⁸ in which he outlines the great difficulties to be faced in achieving rational cloning policy because it would have to grow out of "four different sorts of inputs: scientific, political, religious, and financial."⁹ He further notes the difficulty in achieving any kind of effective regulation, even if the previous questions are answered, given both the availability of finances to do the research and the free flow of knowledge across national and any other kind of artificial boundaries.¹⁰

On the same topic of cloning, M. Cathleen Kaveny provides a very readable and understandable cut at some of the ethical and legal issues arising from the cloning of human beings in "Cloning and Positive Liberty."¹¹ She identifies "at least eight persons"¹² involved in the creation of a human clone and raises

7. *Id.* PPL is the company that assisted in the cloning of Dolly and runs the farm referred to in the text accompanying footnotes 4-6. *See id.*

8. John H. Robinson, *Why an Acceptable Cloning Policy Will Be Hard to Achieve*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 9 (1999).

9. *Id.* at 9.

10. *See id.* at 12-14.

11. M. Cathleen Kaveny, *Cloning and Positive Liberty*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 15 (1999).

12. *Id.* at 22.

issues concerning not only the person who would be cloned, but most especially concerning the welfare of the person who would be the product of cloning. In "Cloning and Harming: Children, Future Persons, and the 'Best Interest' Test,"¹³ M.A. Roberts also examines human cloning and argues that courts should adopt a "clear and convincing" standard of proof that "using a child or undifferentiated embryo as clone source is . . . in the best interest of the child or the future person" before allowing cloning technologies to be used to produce new people.¹⁴

In asking "What Sort of People Do We Want,"¹⁵ Michael J. Reiss raises some of the ethical concerns arising out of genetic engineering, specifically somatic gene therapy and germ-line therapy, the first of which he argues is "ethically fairly unproblematic,"¹⁶ and the latter of which is presently too unsafe to be ethically permissible, though that may not always be so.¹⁷ He concludes that "for the foreseeable future it is probably best to outlaw the use of either somatic or germ-line modification to enhance human traits."¹⁸

George P. Smith, II, in "Judicial Decisionmaking in the Age of Biotechnology,"¹⁹ addresses some complex questions of regulation in wider areas of biotechnology and looks to courts rather than legislatures as the best institutions to deal with them. He states that the "major concern is for the courts to remain forever vigilant to the interlinking relationships or synergistic forces found in law, science, ethics, and medicine,"²⁰ and calls for a "modified form of judicial activism"²¹ so that science is not left to direct the future of this new age and "law to remain a reactive force."²²

13. M.A. Roberts, *Cloning and Harming: Children, Future Persons, and the "Best Interest" Test*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 37 (1999).

14. *Id.* at 53.

15. Michael J. Reiss, *What Sort of People Do We Want? The Ethics of Changing People Through Genetic Engineering*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 63 (1999).

16. *Id.* at 63.

17. *See id.* at 80.

18. *Id.* at 92.

19. George P. Smith, II, *Judicial Decisionmaking in the Age of Biotechnology*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 93 (1999).

20. *Id.* at 93.

21. *Id.* at 94.

22. *Id.*

II. COMPUTER TECHNOLOGY AND THE INTERNET: BORN FREE OR BORN TO BE REGULATED?

Perhaps the mere difficulty of devising an appropriate scheme to regulate the fast-growing and changing Internet suggests the soundness of a *laissez-faire* approach. Shouldn't the effort be abandoned? Hasn't the unregulated growth itself of the Internet and of other computer technologies led to amazing progress and created enormous wealth that will benefit far more people than it might harm? Wouldn't regulation serve to slow down that growth and perhaps distort it? In dealing with electronic commerce, for example, Congress itself has mandated that regulation should be approached cautiously, waiting until situations clarify themselves. Maybe that is the way to deal with the whole rapidly evolving computer and Internet world; maybe one ought to go even further and for the foreseeable future leave the world of the Internet a virtual place where all kinds of growth can take place. Several years ago I attended a conference during which a panel of speakers was trying to make the point that the Internet as a set of technologies and behaviors took its primary value from the fact that indeed it was not regulated. There were visions of hardy pioneers making their way in a frontier in which there was no bothersome government to interfere with their rapid growth. So, if some soul were to be slandered on a World Wide Web site, that was a small price to be paid for all the value that could be derived from this free and unfettered growth. That outmoded laws of libel and slander applied to this "community" could do nothing but harm was the message I took with me. It would be fair to say, I think, that not too many take that position seriously. Most people would consider the mere fact that there exists a technology now that may do *harm* much more efficiently (as, indeed, it may do *good* much more efficiently) itself to be a more urgent reason for regulation.

But even if that be so, that most people grant the need for some regulation of the Internet, the difficulty of developing a scheme of regulation still remains. And even if those are correct who say that it would be foolhardy and perhaps destructive to try to devise such a scheme so early in the development of this brave new world, ought one not still explore various ideas, trying them out in smaller venues to see how they affect life in this electronic universe? The nature of the Internet is that a person may unleash a piece of information and virtually instantaneously it will have crossed national boundaries and been seen in far corners of the world. If someone has been libeled or slandered by a statement made in an Internet posting, a series of obvious questions arises:

(1) By whose standard is the statement libelous or slanderous? That of the place where the statement was made, that of the place where the statement was received, or that of the place where the person resides who was the subject of the statement? What is actionable in New York may not be actionable in York; what is actionable in New Mexico may not be actionable in Mexico. (2) If one determines that the event is actionable, in what venue will it be tried? Where the statement was posted? The residence of the person claiming harm? (3) Whose law will apply? By no means always the same place where a trial would be held. (4) What redress will be available? Damages may be available in London, Ontario that are not available in London, England.

Or if the question is about electronic commerce, whose law determines what is fraud? Can an "innocent" business person end up responsible to the laws of a country much stricter than the laws of her own country because she does business over the Internet? Or the converse, can the "innocent" consumer end up without redress for fraud because of the differing laws of the country in which an Internet offer was posted?

Or what about questions of privacy? Vast amounts of information about persons are now being collected routinely, from supermarket cards in the checkout line to technology that tracks the Web travels of those who visit certain Web sites, from medical information collected by insurance companies to law enforcement agencies. By what law and by whose law will the collection of such information be regulated? What power will reside in the hands of whoever can gather that information into one place?

It is difficult to imagine an end to the variety of questions raised by the existence of electronic and computer technology and the ability to so easily and quickly transmit information. But one must try to identify those issues and explore possible solutions. We offer you here three different cuts at that task. First, Karin Mika raises and proposes answers to some issues created by cellular telephones and electronic mail that particularly affect the practicing lawyer and his or her duties of confidentiality to the client in "Of Cell Phones and Electronic Mail."²³ Next, in "To the Millennium: Emerging Issues for the Year 2000 and Cyberspace,"²⁴ Carl W. Chamberlin lays out in significant detail a number of the serious legal issues raised by the Y2K problem and

23. Karin Mika, *Of Cell Phones and Electronic Mail: Disclosure of Confidential Information Under Disciplinary Rule 4-101 and Model Rule 1.6*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 121 (1999).

24. Carl W. Chamberlin, *To the Millennium: Emerging Issues for the Year 2000 and Cyberspace*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 131 (1999).

the Internet, issues that stretch notions of the law with which we are familiar. Finally, a student piece by Charles R. Topping, "The Surf Is Up, but Who Owns the Beach—Who Should Regulate Commerce on the Internet?,"²⁵ uses a federal district court case to explore questions about what basic form regulation of the Internet ought to take. Is the highway the best analogy from which to derive principles of regulation, or is it something else entirely?

III. CONTROL OR BE CONTROLLED

These areas of biotechnology and computer technology are certainly not the only ones in our society in which change comes rapidly. With the growth of the ability to gather and manipulate rapidly ever-increasing amounts of information in many different areas of thought, there will be many new challenges to the ability of the human mind and spirit to understand what is happening, much less to evaluate what direction development ought to go. But evaluate, ponder, decide; these are what we must learn to do, if we are not to be controlled by the technologies we develop. The articles in this issue of the *Journal* we hope present some useful contributions to that process.

25. Charles R. Topping, *The Surf Is Up, but Who Owns the Beach?—Who Should Regulate Commerce on the Internet?*, 13 NOTRE DAME J.L. ETHICS & PUB. POL'Y 179 (1999).